

The Calendar
OF
KING'S COLLEGE,

WINDSOR, NOVA SCOTIA.

FOR THE YEAR OF OUR LORD

1860.

PUBLISHED UNDER THE DIRECTION OF THE BOARD OF GOVERNORS.

HALIFAX, N. S.
PRINTED BY JAMES BOWES AND SONS.
1860.

THE CHURCH

ACADEMICAL YEAR 1900-1901

KING'S COLLEGE.

1. Theological Department
2. Law Department
3. Medical Department
4. Science Department
5. Arts Department
6. Divinity Department
7. Education Department
8. Commerce Department
9. Agriculture Department
10. Engineering Department
11. Mining Department
12. Forestry Department
13. Veterinary Department
14. Pharmacy Department
15. Dentistry Department
16. Nursing Department
17. Music Department
18. Fine Arts Department
19. Physical Education Department
20. Social Science Department
21. History Department
22. Geography Department
23. Political Science Department
24. Economics Department
25. Sociology Department
26. Psychology Department
27. Philosophy Department
28. Mathematics Department
29. Natural Science Department
30. Life Science Department
31. Earth Science Department
32. Environmental Science Department
33. Health Science Department
34. Behavioral Science Department
35. Interdisciplinary Studies Department

THE YEAR OF OUR LORD

1900

1901

1902

1903

1904

1905

1906

1907

1908

1909

1910

UNIVERSITY CALENDAR

FOR THE

ACADEMICAL YEAR 1860-1861.

1860.

September.

- Sept. 3. Michaelmas Term begins.
" 4. Meeting of College Board.
" 8. "Welsford Testimonial" presented.
" 22. Cricket Prize game.
" 28. Alumni Scholarship examination.

December.

- Dec. 7. Responsions.
" 10. Terminal Examinations begin.
" 15. Michaelmas Term ends.

1861.

January.

- Jan. 21. Lent Term begins.

March.

- Mar. 18. Terminal Examinations begin.
" 23. Lent Term ends.

April.

- Apr. 8. Easter Term begins.

June.

- June 17. Terminal Examinations begin.
" 19. } Degree Examinations.
" 20. }
" 21. }
" 24. Prize Examinations.
" 25. Collegiate School Examination.
" 26. Annual Meeting of Associate Alumni.
" 27. ESCAMIA.
July 1. Academic Year closes.

UNIVERSITY CALENDAR

ACADEMIC YEAR 1901-1902

Sept. 1	Academic Year begins
Sept. 1	Registration begins
Sept. 1	First Term begins
Sept. 1	First Term ends
Sept. 1	Second Term begins
Sept. 1	Second Term ends
Sept. 1	Third Term begins
Sept. 1	Third Term ends
Sept. 1	Fourth Term begins
Sept. 1	Fourth Term ends
Sept. 1	Annual Meeting of Associated Students
Sept. 1	College School Examination
Sept. 1	Third Examination
Sept. 1	Second Examination
Sept. 1	First Examination
Sept. 1	Final Examination
Sept. 1	Final Examination begins

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KING'S COLLEGE,

WINDSOR, N. S.

THE Governors of King's College, Windsor, have much pleasure in presenting to its numerous friends some account of their proceedings during the past Academical year.

At the annual meeting of the Associate Alumni, on the 27th June, the outgoing Governors, Hon. M. B. Almon and S. P. Fairbanks, Esq., were re-elected.

The terminal reports of the President, which have been regularly published, and will also be found in the Appendix to this Calendar, contain the usual items of information as to the studies prosecuted by the young men under the respective professors, and their relative standing at the close of each Term—to which documents the reader is referred.

It is very satisfactory to the Governors to be able to state, that the conduct of the young men has been in general exemplary, and their proficiency in the different branches of study alike creditable to themselves and their instructors, whose constant endeavor it is to make their pupils realise the great educational advantages now attainable at Windsor. Contrasting the present complete staff of Professors, and the wide range of subjects now embraced in a College course, with the state of things during the first ten or twelve years of the existence of the College, when there was but one instructor in Classics, and Sciences, and Divinity, assisted by an English teacher, there is certainly much reason for congratulation on the advanced character of the Institution, and its enlarged capabili-

ties, which have been carefully adapted to the progress of society and the increased requirements of the country. All that is now wanting, is a more general resort of our Provincial youth to a University, where they can acquire a first rate education at a much cheaper rate than in any other part of North America.

It is gratifying to be able to add, that there has been a cheering increase in the number of Students during the year, —no less than fifteen matriculations having taken place, of which more than half were from the Collegiate School.

Professor Everett, whose appointment to the Chair of Mathematics and Natural Philosophy was announced in the last Calendar, has been in the active and diligent discharge of his important duties during the last Academical year. At the recent celebration, this gentleman delivered an excellent Essay on the advantages of his department of the educational course, which will be found in the Appendix.

The want of a separate building for a Hall and Library, which has frequently engaged the consideration of the Alumni, is still to be lamented, and its necessity is made more manifest on the recurrence of each annual Encenia. This year the present Hall, which formerly afforded ample accommodation, was densely and uncomfortably crowded, and numbers could not procure admission; while many more would doubtless have attended from various parts of the Province, if they could have expected room to see and hear. The sum of £700 has already been subscribed for a new building, and it is to be hoped that this may be soon increased sufficiently to warrant its commencement.

It will have been perceived by the acknowledgments from time to time published, that various donations have been received during the year, both to the Library and to the funds of the Institution.

The Cabinet of Natural History has also been enriched by several rare and valuable contributions,—the particulars of which will be found in the Appendix.

The Library has likewise been enlarged by a number of very valuable works, the gift of the Alumni Association, which for several years has materially aided, in various ways, the interests of the

University. And the Governors are happy to learn that the Alumni have this year authorised the purchase of a most valuable collection of Silurian Fossils, prepared and arranged by Rev. Mr. Honeyman, of Antigonish, an experienced Naturalist. Thus adorned and enlarged, our Cabinet will more than ever attract the attention of scientific visitors, and the character of the University will thus be greatly elevated at home and abroad.

The Professor of Chemistry and Natural History has, during the year, employed a portion of his vacations in prosecuting mineralogical researches in Cape Breton and other parts of the Province. Some account of these will be found in the Appendix.

The Professor was lately called upon by the Provincial Government to investigate the supposed gold region at Tangier, in this Province, and the value of his services is thus acknowledged in the able report of the Secretary of the Province, the publication of which had a most salutary effect in allaying the excitement created by the reported discovery of gold, which was rapidly unsettling the minds of the people, and withdrawing them from their industrial occupations.

"Before closing this paper, I have much pleasure in acknowledging the great services rendered in the conduct of this enquiry by Professor How, whose scientific training and thorough knowledge commanded the respect of the people who had anything to show, and whose general views of the whole subject are embodied in this report."

The same Professor transmitted, on the part of the Governors, to Sir W. Denison, of Australia, a quantity of Nova Scotia specimens, in return for which it is hoped that we shall soon receive some of those of that far-off land,—a letter having lately been received from His Excellency acknowledging the receipt of our box, and intimating his intention of making a bountiful return at an early day.

In the last Calendar mention was made of the interesting present of his Lucknow sword, made to the College by Sir John Inglis, which, with that worn by Sir F. Williams during the memorable siege of Kars, arrests the fixed attention of every intelligent visitor at the Library. The following items of information, which have been furnished by Sir John, will be read with interest :—

"The sword was a Sikh weapon, captured at Goojerat in the last Punjaub war, and was highly valued by him, it having been presented to him by a much esteemed friend, the late Sir George Hardinge, of the Oude irregular cavalry, and D. A. Q. M. G. at Lucknow, who was twice wounded during the siege, and died in consequence. It had no belt, but was tied round Sir John's waist during the eighty-seven days and nights of the siege, by a piece of cord." In reference to this present it was unanimously resolved, "That the thanks of the Board be presented to Major-General Sir J. E. W. Inglis, K. C. B., for his valuable donation of the sword worn by him during the eighty-seven days and nights of the ever memorable and glorious defence of Lucknow. The Governors have also to thank him for the interesting history of this weapon, communicated by the Chief Justice, and to express their high sense of the regard for his native land, which has induced him to entrust to their care the precious gift of his late brave friend and companion in arms." To insure its preservation they have provided a glazed cabinet, where it is deposited side by side with the sword worn by Sir W. Fenwick Williams at Kar's; and they hope that the sight of these memorials of the achievements of their illustrious countrymen may stimulate many generations of students to improve their opportunities, and to emulate the energy and diligence, which, in these instances, secured success and well-merited honors."

The Collegiate School in connection with the College has been very prosperous during the past year, the numbers being up to the limit, and the progress of the pupils, as tested at the recent examinations, being very satisfactory. Five have lately entered College with credit—two of them bearing off the school exhibitions of £8 and £4 respectively. The importance of the exhibitions, and the various prizes established at the College and School, has been very apparent, as stimulating the diligence and emulation of the pupils; and the report of the examiners show the beneficial effects produced on the successful as well as the unsuccessful candidates.

The Professor of Modern Languages continues his most efficient and important service in that department of education, both at the College and the School, and the Governors are happy to bear

the fullest testimony to the ability, fidelity and success of his labors.

Among other facilities for guiding the studies of the youth at the School and College, the Governors have made arrangements, through the kind intervention of His Excellency the Earl of Mulgrave, by which they will be furnished periodically with the examination papers prepared in England, for candidates for commissions in H. M. army and navy—the first set of these papers having been lately received.

Several of our young men have within a few years entered Her Majesty's service, and no doubt more will be found; desirous of emulating the fame of those Alumni who have won the highest distinctions in the service of their country, and to such these papers will prove very useful for the profitable direction of their studies.

The value of the College certificates, which give to their holders the right of free nominations, is becoming more and more apparent, as the number of students increases; and it is hoped that the expectations originally entertained, by those concerned in the raising of the endowment, of a large influx of students in consequence of that privilege, will be speedily realised. Those contributors whose notes of hand still remain unpaid, will see the importance of preventing this advantage from passing away from them, by immediately discharging their several obligations. It will be remembered that the whole amount of fees for a three years' course, (immunity from which is secured by a nomination,) is not less than £74 15s.

The Governors did not fail to bring to the notice of His Royal Highness the Prince of Wales, during his recent auspicious visit, this Institution, founded by his Royal progenitor King George the Third, and the following address was presented by the Visitor on behalf of the Governors:—

TO HIS ROYAL HIGHNESS ALBERT EDWARD, PRINCE OF WALES,
&c. &c. &c.

MAY IT PLEASE YOUR ROYAL HIGHNESS,—

The Governors of the University of King's College, Windsor, N. S., gladly avail themselves of Your Royal Highness's arrival in this portion of Her Majes-

ty's dominions, to testify their delight at this auspicious event, and to present their dutiful respects and devoted attachment to their most gracious Sovereign.

Fresh from the academic halls of Oxford, Your Royal Highness will be pleased to know, that an attempt has been made, not altogether without success, to transplant the system of that ancient University to this new soil, and that in this Colony of the Empire Learning has found a seat, from which the Arts and Sciences extend their mild and benignant influence.

Founded by a progenitor of Your Royal Highness, His Majesty George the Third, and long fostered by his protecting care, the University on whose behalf we have now the honor of addressing you (being the oldest in Her Majesty's Colonial possessions), has ever faithfully fulfilled the expressed object of His Royal munificence and parental regard.

By it our youth receive, in conformity with the terms of the Royal Charter, the blessing of a sound education in the principles of true Religion, and are instructed in the several branches of Science and Literature which are taught at the Universities of the parent kingdom.

Grateful for the enjoyment of such blessings, and revering *His* pious memory from whom they originated, the Governors of the College, and every member of it have, above all others, cause for the warmest attachment to your Royal House; and by none, accordingly, are sentiments of unfailing loyalty to their honored Sovereign more ardently entertained.

That Your Royal Highness may derive unmingled satisfaction from this visit to Her Majesty's North American Provinces, and, blessed with the choicest gifts of our Heavenly Father, may long live the promoter and patron of Learning, is the fervent prayer, may it please Your Royal Highness, of your most devoted and faithful servants.

Signed on behalf of the Governors,

H. NOVA SCOTIA,

Visitor.

REPLY.

MY LORD,—

I have the honor to acknowledge, by desire of His Royal Highness the Prince of Wales, the Address which you have presented to him on behalf of the Governors of the University of King's College, Windsor, Nova Scotia, and to express to you the gratification which it has afforded to His Royal Highness.

I am,

My Lord,

Yours faithfully,

NEWCASTLE.

The Right Rev. the LORD BISHOP.

Government House, Halifax, 1st August, 1860.

The Governors cannot conclude this Report without recording in terms of the deepest regret the loss which the College and the Province have sustained, in the recent death of the venerable Chief

Justice, Sir Brenton Halliburton, who has during more than fifty years been intimately connected with the Institution, and has always proved himself its consistent, warm and devoted friend. He became Secretary of the former Board of Governors in 1803, and continued to act in that capacity until 1807, when he was raised to the Bench of the Supreme Court. He was elevated to the position of Chief Justice and *ex officio* of Governor of the College, in 1835, and has ever exercised a large influence in its councils. On the re-organization of the Institution in 1854, he was continued among the life members of the Board, under the Provincial Act now in force, and has to the very last taken a uniform and lively interest in every thing affecting the welfare of the Seminary, having been present at the very last regular meeting of the Governors that was held.

The following resolution has been placed on the minutes of the Board, and a copy sent to the family of the venerable deceased :—

Resolved, That this Board do express in the warmest terms their deep sense of the loss which they have, since their last meeting, sustained in the death of the venerable the Chief Justice of the Province, Sir Brenton Halliburton. As citizens they mourn the loss of one whose virtues endeared him to all,—as fellow-members of the Board of Governors, they feel that they will long miss the presence of one whose gentle demeanor added force to his wise counsels. For more than half a century, first as Secretary, and then as a member of the Board of Governors under the original charter of the University, and afterwards as a leading and most honored member of the present Board from its foundation to his lamented death, he ever shewed a warm interest in the Institution, and contributed much by his influence to its success. As in the profession of which he was at the head, and in society of which he occupied the highest place, so at this Board he was regarded by all, the oldest as well as the youngest, in the light of a parent, and his counsels were received with additional respect because his wisdom was always tempered by kindness.

The Governors who survive him feel that they only do common justice, when they bear this final and public testimony to the great advantages which the College has derived, from the sound judgment and wise counsels which for so many years Chief Justice Sir Brenton Halliburton brought to bear upon all its concerns.

JAMES C. COCHRAN, M. A.,

Secretary.

HALIFAX, August, 1860.

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APPENDIX.

KING'S COLLEGE, WINDSOR, N. S.

FOUNDED A. D. 1789. CHARTERED BY H. M. GEORGE III., 1802.

BOARD OF GOVERNORS

FOR THE YEAR 1860.

The Right Rev. HIBBERT BINNEY, D.D., Lord Bishop of Nova-Scotia
President.

Rev. GEORGE McCawley, D. D.

Hon. Mr. Justice WILKINS, B. A.

Hon. ALEXANDER STEWART, C.B., Judge of the Admiralty.

Rev. JOHN THOMAS TWINING, D. D.

HARRY KING, Esq., D. C. L.

WILLIAM J. ALMON, Esq., A. B., M. D.

JAMES C. COGSWELL, Esq., D. C. L.

Rev. J. W. D. GRAY, D. D., Rector of Saint John, N. B.

ANDREW M. UNIACKE, Esq., D. C. L.

Hon. MATHER BYLES ALMON.

SAMUEL P. FAIRBANKS, Esq., Q. C.

J. C. HALLIBURTON, Esq., *Treasurer.*

Rev. JAMES C. COCHRAN, M. A., *Secretary.*

FACULTY.

President of the College.

The Rev. GEORGE MCCAWLEY, D. D.

Professor of Divinity, including Pastoral Theology.

The Rev. JOHN MANUEL HENSLEY, M. A.

Professor of Mathematics, Natural Philosophy, and Astronomy.

JOSEPH D. EVERETT, Esq., M. A.

Professor of Chemistry and Natural History.

HENRY HOW, Esq.

Professor of Modern Languages, viz., French, German, Spanish and Italian, (Also qualified to instruct in Drawing).

Dr. HENRY STIEFELHAGEN.

Librarian and Surzar.

Professor HENSLEY, M. A.

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TABLE OF FEES AND DUES

FROM WHICH NOMINEES ARE EXEMPT.

	Currency.		
	£	s.	d.
Matriculation,.....	0	10	0
Tuition, each Term,.....	4	0	0
Modern Languages, per term,.....	1	0	0
Professor of Natural History and Chemistry, per Term,.....	2	10	0
Library, per annum,.....	1	5	0
Degree of B. A.,.....	3	0	0

THE FOLLOWING ARE PAYABLE BY ALL.

Degree of M. A.....	3	0	0
Any higher Degree,.....	5	0	0
Certificate from the Register, each,.....	0	5	0
Every Certificate or Instrument under the seal of the University,.....	1	0	0

EXPENSES.

BOARD—For Breakfast and Dinner, which are taken in the College Hall—per week,.....	0	12	6
Attendance, portorage, messenger, and sundry small services per week, in Term time,.....	0	1	0
Do. when two live together, each per week,.....	0	0	9
Luncheon, if required,.....	0	0	3
College road-money, yearly.....	0	2	6

Students take their evening meal in their own apartments, and provide lights and fuel, as also beds and bedding, and room furniture.

THE FEES ESTABLISHED FOR THE DEPARTMENT OF THE PROFESSOR
OF CHEMISTRY AND NATURAL HISTORY.

To Individuals or Companies requiring the analysis of any substance or mineral:

	£	s.	d
For ascertaining the <i>nature</i> of any such mineral or substance,.....	1	0	0
If the <i>quantity</i> of one or two elements is to be determined,.....	1	15	0
If a <i>complete</i> analysis of a <i>simple</i> mineral is required,	3	0	0
If a <i>complete</i> analysis of any coal or other complex substance be required, such as soils, minerals of a mixed nature, &c.,.....	6	0	0

PRACTICAL AND ANALYTICAL CLASS.

For the above there shall be two Terms: one from September to December 15, the other from January 15 to June 15.

Hours of attendance—from 10 to 12 o'clock.

FEES PAYABLE BY ALL STUDENTS IN THIS DEPARTMENT, WHETHER
NOMINATED OR NOT.

	Short Term.	Long Term.
Five Lectures per week,.....	£3 10 0	£5 0 0
Four " "	2 16 0	4 0 0
Three " "	2 2 0	3 0 0
Two " "	1 8 0	2 0 0
One " "	0 15 0	1 0 0

All materials and apparatus provided by the College.

All damage, breakage, &c., to be paid for by the student at cost prices.

Additional charges for increased time.

SCHOLARSHIPS.

THE WILLIAM COGSWELL SCHOLARSHIP.

£30 per annum, open to Candidates for Holy Orders. Under the direction of the Trustees.

Scholar—E. ANSELL.

DIVINITY SCHOLARSHIP.

Paid by the Society for the Propagation of the Gospel in Foreign Parts—open to Students for Holy Orders, actually requiring assistance—and subject to the control of the Bishop of the Diocese.

Ten in number—£30 currency, per annum, each.

THE DR. BINNEY EXHIBITION.

Open to Students in indigent circumstances, and of exemplary conduct.

£30 per annum.

THE ALUMNI SCHOLARSHIP.

£10 for the best Classical Scholar.—Open to all residents who have not passed the B. A. examination.

PRIZES.

THE McCAWLEY HEBREW PRIZE.

THE McCAWLEY HEBREW PRIZE of £9 sterling, open to all Members of the University who are below the standing for M. A., and who have not already gained the first premium in Hebrew.

THE BISHOP'S PRIZE.

THE BISHOP'S PRIZE of £5 in books.

DR. COGSWELL'S CRICKET PRIZE.

CHARLES COGSWELL, Esq., M. D., has made a donation of £100 to the Governors of King's College, the interest of which is to be expended in the purchase of a set of Cricket bats, balls, &c., to be given to the best player among the winning party of a Cricket match, to be contended for annually, on the College grounds, on some day in the month of September. "The object of the donation is to promote the health of the Students, and encourage them in the prosecution of their studies."

DR. ALMON'S WELSFORD TESTIMONIAL.

WILLIAM J. ALMON, Esq., M. D., has endowed King's College with £100, the interest of which is to be appropriated as a prize to be competed for every June, by matriculated students, in their first year. The prize is to be presented by the President in the College Hall, on the 8th September, being the anniversary of the attack upon the Redan, in which Major WELSFORD fell—on which day, in every year, his gallant and loyal deeds are to be commemorated in Latin.

If no candidate shall be deemed deserving of the prize, it will be appropriated to the purchase of books for the College library.

ALUMNI PRIZES.

- £5 to the best Classical Scholar.
- £5 to the best in Mathematics.
- £5 for proficiency in Chemistry and Natural History.
- £5 to the greatest proficient in Modern Languages.

EXAMINERS FOR 1860.

- LIEUT. HARRISON, (Ox.)
- CAPT. DAVIDSON, R. E.
- REV W. E. SCOVIL, M. A.
- B. CURREN, Esq., M. A.

PRIZEMEN FOR 1860.

- E. ANSELL, Hebrew Prize.
- “ “ Judge Stewart's Prize Microscope.
- B. SMITH, Welsford Testimonial.
- H. BROWN, Mathematics.
- “ “ Chemical Analysis.
- C. J. TOWNSHEND, French.
- “ “ Chemical Physics.
- W. H. E. BULLOCK, German.

REPORT OF EXAMINERS.

On Tuesday last the Examination of the Collegiate School, previous to the summer recess, took place in presence of the Professors of the College, the Masters of the School, and other gentlemen, among whom was an experienced teacher from the sister Province, who took an active part in the business of the day.

The several classes were closely questioned, at the discretion of the Examiners, in various parts of the different branches which they had studied during the previous half-year, and it was gratifying to find that Analysis and Grammatical accuracy were not neglected for the more showy parts of classical learning.

Much commendation was bestowed upon the teachers for the high state of efficiency which the School exhibits, under its present management.

The following prizes were awarded to those who most distinguished themselves :—

The Matriculation Prize of £8 for General Scholarship, to Albert Kaulbach.

The second prize of £4 for the same, to P. Lynch.

Judge Stewart's prize of £2 10s. for French, to James D. Harris.

" " " £2 10s. for Arithmetic, to Barclay.

W. E. SCOVIL,
Examiner.

WINDSOR, June, 1860.

EXTRACTS FROM THE STATUTES.

No Undergraduate shall resort to any inn, tavern, or public house, except for some special cause, to be approved by the President, or shall spend his time in the streets of the town.

All bills of Undergraduates are to be sent by the tradesmen with whom the debts are incurred to the Bursar, at the end of every Term; and parents are particularly requested to refuse payment of any bills not thus sent in.

The introduction of spirituous liquors into the College is absolutely prohibited.

NOMINATIONS.

The following is the form of nomination of a student to pass through the University, free of fees, and must be addressed to the Secretary of the Board of Governors:

To

Secretary of the Governors of King's College, Windsor.

I do hereby nominate (A.B.) to pass through the University, free of fees, by virtue of certificate No. —, held by me.

(Date.)

(C. D.)

In case of a joint certificate, the above form must be complied with, and the same must be signed by all the holders.

Each nominee is exempt from the payment of yearly fees, amounting to £74 15s., for the three years' course, including the fee for a B. A. degree. There being eighty-five certificates conferring this privilege, it is easy for students to obtain it. If a scholarship is held besides, nearly the whole yearly cost of education will thus be covered.

COLLEGIATE SCHOOL, AT WINDSOR.

UNDER THE CONTROL OF THE GOVERNORS OF KING'S COLLEGE.

Principal.

REV. D. W. PICKETT, M. A.

H. STIEFELHAGEN, Ph. D., Prof. of Modern Languages.

MR. J. R. MILLER, Assistant.

Terms.

BOARDERS—under fourteen years £35 ; if over that age at the time of admission, £40 per annum, *payable quarterly in advance*; this includes tuition, board, washing, and ordinary mending.

DAY SCHOLARS—£8 per annum,

Instruction in one or all of the four modern languages, by Professor STIEFELHAGEN, £3 per annum.

Vacations.

From July 1 to August 15.

From December 15 to January 15.

There are two exhibitions of £8 and £4 each, to be competed for annually. The first is open to the senior form, and the successful candidate must be qualified, though not required, to enter College. The second is open to the whole school. To entitle a pupil to become a candidate for an exhibition, he must have been enrolled as a scholar at the Collegiate School for at least one year previous to the examination.

There are, in connexion with this school, six exhibitions, each £15 per annum, tenable for three years, to be given to sons of clergymen, and to those who are designed for the ministry.

The annual alumni Prizes of £8 and £4 will be open for competition in June, 1860.

The Prize of £2 10s. founded by the Hon. Judge STEWART, C. B., for the best proficient in Practical Arithmetic, and of £2 10s. for the best in French, at the Collegiate School, is to be competed for in June, 1861. The requisite knowledge may be obtained elsewhere.

King's College, Windsor.

CHRISTMAS, 1859.

THE *Responsions* have been passed by F. Pryor and W. B. Almon.
The *Hebrew Prize* has been awarded to E. Ansell.

TERMINAL EXAMINATIONS.

In Literis Humanioribus.	In Disciplinis Mathematicis et Physicis.	In Theologia.		In Scientiis Naturali.	In Linguis Recentioribus.
		Schol. Fac.	Schol. Art.		
Ansell Leaver Hodgson Wilkins	Hodgson Ansell Wilkins	H. P. Almon, B. A. Sterns, B. A. R. F. Uniacke, B. A.	Smith Townshend Bullock Bowman	Physiol. Ansell Wilkins	Teut. Ansell Hodgson Leaver Pryor
Pryor Sutherland } <i>eq.</i> W. B. Almon } J. B. Uniacke }	H. Brown Pryor D. Brown W. B. Almon J. B. Uniacke } <i>eq.</i> Sutherland }	Ansell Hodgson Leaver Wilkins Pryor J. B. Uniacke	Sutherland W. B. Almon McCully H. Brown D. Brown	Chem. Prac. H. Brown D. Brown W. B. Almon	McCully Bowman Bullock Townshend }
Smith Bullock Townshend McCully Bowman	Smith Townshend McCully Bowman Bullock	Pryor J. B. Uniacke		Chem. Gen. H. Brown W. B. Almon D. Brown McCully	Gal. Hodgson McCully Townshend Smith Bullock }
Armstrong, ab.	Armstrong, ab.			Sutherland Bowman McCully	Bowman Wilkins Sutherland Pryor W. B. Almon J. B. Uniacke
H. Brown D. Brown				Armstrong, ab.	

CHAPEL SERVICES.

A large proportion of the students have been quite punctual in their chapel attendance. Very few have exceeded the permitted

absence.—Three names, however, have been unavoidably *obelised* in the chapel report for this term.

CLASSICS.

The usual Latin and Greek authors have been studied in the various classes with constant reference to the grammatical forms in both languages as the only sure ground of correct, fluent, and elegant translation. Copious and varied papers have been written in view of this especial object. Attention has also been given to the other subjects specified under this head in the *Curriculum* annually published in the College Calendar.

THEOLOGY.

The Professor reports that with the resident Bachelors he has lectured on the Evidences, on the Greek Testament and Septuagint, on Ecclesiastical Polity and History, on the Creeds, on the Liturgy, and on Homiletics. With the Undergraduates he has proved the authenticity and credibility of the Scriptures—their uncorrupted preservation and true reading. He has reviewed with them the O. T. History and History of the Reformation, and has guided them through portions of the Greek Testament and Grotius de Veritate.

MATHEMATICS AND NATURAL PHILOSOPHY.

The recently appointed Professor entered upon the duties of his office early in the term. He has employed his junior class in Arithmetic, Algebra and Euclid, including numerous Geometrical deductions and exercises in Fractions, in Evolution in Equations, and in the Elements of Mensuration. With men of the second year he has entered upon the first principles of Plane Trigonometry and solution of Triangles, supplying frequent numerical exercises for the application of the most important formulæ; and in Algebra he has furnished abundant examples in Fractions, Roots, and Equations. With the senior class he has lectured on Statics, including the principal theorems; the resolution and composition of forces acting in a plane; the theory of couples, friction, and centre of gravity; on Plane Trigonometry, on Algebra, and Analytical Geometry, with exercises and examples amply illustrating each subject.

NATURAL SCIENCE.

The Professor of Chemistry and Natural History has discussed with his senior pupils the principles of Human Physiology, treating of the organs of sense, and the details of the circulation, respiration, and digestion. He has conducted another class through the Chemistry of the Metals, supplying the scientific details, and also experimental illustrations of the practical uses of the various metals, with the mineralogy inseparable from such a course. Various specimens of arts and manufactures exhibited were by these means rendered intelligible to the students. His third class were engaged in the study of Heat and Light, experimentally attending to proofs of various important laws in Chemical Physics relating to Temperature, Specific heat, Latent Heat, Expansion, Radiation, Conduction, &c. They were also taught the fundamental laws respecting Light; were shewn the prismatic spectrum and its various properties, with experimental evidence of the existence and properties of polarized light. A fourth class has pursued the systematic method of analysis in experimental chemistry; they have been taught to detect single substances, and also several substances existing together; they have also been instructed how to prepare substances necessary for analytical purposes. The Professor has made analysis during the term of the valuable Paraffine Oil Coal found at Fraser's Mine, Pictou, and of a highly saline mineral water from Cape Breton—the details of which analyses will appear in the next College Calendar.

MODERN LANGUAGES.

The Professor has pursued the course which was arranged for the Horarium at the beginning of term. His pupils have read choice passages from some of the best authors in French and German, and have committed some of them to memory. They have been daily practised in exercises on important points of Grammar, and in the ready and accurate colloquial use of the Languages. The professor has selected and recommended to his pupils a well-edited and unexceptionable French periodical as a practical auxiliary to his lectures.

DONATIONS.

The Rev. Dr. Shreve has presented a box of books to the Library, accompanied by a letter expressive of strong attachment to his College. They consist chiefly of the writings of German Divines from Luther downwards, and are not only intrinsically valuable, but are also interesting as memorials of the late Rev Auguste W. B. Weinbeer, of whose well selected library they formed a part.

The Rev. H. L. Owen, B. A., has sent to the Library a valuable Hebrew Bible, Michaëlis 1720, Halæ Magd., in 2 vols., with notes.

The gift already noticed from H. Pryor, Esq., D. C. L., has been received) consisting of six handsome volumes.

Rev. D. W. Pickett, M. A., has presented "Dr Gray's letter to members of the Church of England."

Mr. E. Maturin, M. A., has addressed to the Librarian a bound copy of two of his tracts.

Messrs. Bowes & Sons have presented the Provincial Magazine, 2 vols. in one.

J. R. Willis, Esq., has forwarded various gifts, consisting of Dried Plants, Skull of Walrus (*Tricuhus Rosmar* L.), and Jaw of Sperm Whale, a Flying Fish (*Exocætus volitans* L.) All these have been taken on Sable Island. Since the former valuable gifts announced from this zealous naturalist, we have also received four specimens of Radiata.

Miss Belcher has presented a fine engraving of her brother, Sir Edward Belcher.

H. Ross, Esq., specimens of Building Stone, from Pictou, and of Lead Ore from Newfoundland.

C. B. Bowman, Esq., Paraffine Coal and Shale from Pictou.

G. Crichton, Esq., Lignite from Peru.

H. Poole, Esq., Fossils and Graphite.

— Phillpott, Esq., Copper Ore, from Newfoundland.

W. Pryor, Esq., Iron Pyrites from Newfoundland.

J. C. Bowman, Esq., four specimens of Gold and Auriferous Quartz and Sand, from Mariposa, Alta California.

Mr. F. Bowman, a medal in commemoration of the marriage of Her Majesty Queen Victoria and Prince Albert.

EXCHANGES, &c.

160 specimens of Fossils and Minerals illustrating the Geology and Mineralogy of Nova Scotia, have been despatched to Sydney, New South Wales, by the Professor of Natural History, for exchanges, under the sanction of the Governors.

MATRICULATIONS AND ENTRANCES AS ELECTIVE STUDENTS.

H. Brown, } E. S. from private tuition of Rev. T. D. Ruddell,
D. Brown, } M. A.

A. Fraser, E. S. from Collegiate School.

Wainwright, from Halifax Grammar School.

Lent Term will commence on Monday, 16th January, 1860.

COLLEGIATE SCHOOL.

This School closed for the Vacation with an examination in the *English Department*. As it took place on the day appointed for one of the College examinations, the President and Professors were unable to attend; but Dr. H. King, on behalf of the Governors, and Professor Hensley from the College were present, and have given a very favorable report of the readiness and accuracy of the pupils in answering numerous questions in Mathematics, Geography and History, as well as of the correctness and neatness of their books in Writing and Arithmetic.

GEORGE McCRAWLEY,

President.

King's College, Windsor,

EASTER, 1860.

TERMINAL EXAMINATIONS.

<i>In Literis Humanioribus.</i>	<i>In Disciplinis, Mathematicis et Physicis.</i>	<i>In Theologia.</i>		<i>In Scientia Naturali.</i>	<i>In Linguis Recentioribus.</i>
		<i>Schol. Fac.</i>	<i>Schol. Art.</i>		
Ansell	Hodgson	Almon, B. A.	Sutherland	<i>Org. Chem.</i>	<i>Gall.</i>
Hodgson	Ansell	Uniacke, B. A.	Smith	H. Brown	Hodgson
Wilkins	Wilkins	—	Townshend	D. Brown	Townshend
—	—	Ansell	Armstrong	W. B. Almon	McCully
Pryor	H. Brown	Hodgson	Leaver	Pryor	Smith
J. B. Uniacke	Pryor	Wilkins	Bullock	J. B. Uniacke	Bullock
Sutherland	D. Brown	—	McCully	Sutherland	Armstrong
—	J. B. Uniacke	Pryor	Bowman	—	Bowman
Smith	Sutherland	Uniacke	W. B. Almon	<i>Chem. Phys.</i>	—
Bullock	—	—	—	McCully	Sutherland
McCully	Armstrong	—	H. Brown	Smith	Wilkins
Townshend	Smith	—	D. Brown	Townshend	Ansell
Armstrong	Wood	—	—	Bullock	W. B. Almon
Bowman	Townshend	—	Wood	Bowman	—
—	Bullock	—	—	Armstrong	<i>Tent.</i>
D. Brown	Bowman	—	—	—	Ansell
H. Brown	—	—	—	<i>Prac. Chem.</i>	Leaver
—	McCully, <i>ag.</i>	—	—	H. Brown	Hodgson
Wood	—	—	—	W. B. Almon	Pryor
—	—	—	—	D. Brown	—
—	—	—	—	Leaver	Bullock
—	—	—	—	—	Armstrong
—	—	—	—	—	McCully
—	—	—	—	—	Townshend
—	—	—	—	—	Bowman

1. In *Classics* the authors usually read in the third year's course have been studied with appropriate illustrations from books of reference. The three other classes have read subjects suitable to their proficiency in this department. Various exercises have been written, and many themes and essays have been carefully composed. A separate day was devoted to the examination in the work of each Lecture-room, and the students were questioned both orally and by written papers.

2. In *Theology* the Hebrew Bible and Septuagint, the Greek Testament, Grotius de Veritate, General Eccles. History and Hist. of the Reformation, the Articles, Hooker & Pearson, have been continued, and appropriate question papers have been answered.

3. In *Mathematics* and *Natural Philosophy* the subject of Dynamics was very fully explained, including the laws of Motion, the action of Gravity, the motion of Projectiles, impact, centrifugal force, radius of gyration, radius of oscillation and the times of vibration of pendulums, also the reciprocal relation between "work done" and vis viva. Exercises on all these were prescribed and executed. The other subjects were—The Differential Calculus, Algebra, Trigonometry, Euclid, the use of the Globes, and Mathematical Instruments.

4. In *Natural Science* one class has been conducted through a large portion of Organic Chemistry. The theory of compound radicals has been explained and illustrated, and the properties of various interesting substances discussed and examined; several substances were prepared before the class, and attention was particularly directed to the uses of such as are employed beneficially, and to the means of detection of such as are poisons. The junior class has been taken through Lectures on Electricity and Magnetism and General Chemistry, theoretically and experimentally, as well as on Telegraphing, Blasting, Lightning, Deposition of Metals for the modeller and engraver, Plating in Gold and Silver,—and in these were also seen the close relation subsisting between Galvanism and Chemistry. In Practical Chemistry a great variety of metals, salts, &c., and complex mixtures of the same, have been separately worked upon by the students, and their nature and names made out by the systematic course of analysis now employed. A few preparations of substances for laboratory use have also been made by them for practice in this part of the subject.

5. The "*Causeries Parisiennes*" introduced by the Professor of *Modern Languages*, is still thoroughly studied, with copious grammatical exercises from dictation of turning English into French, and *conversation practice* as usual. "*LeGrandpere*" and Ollendorff have formed the groundwork of the other lectures in French. In German the works of Schiller continue to be studied while the junior pupils are engaged in mastering the difficulties of grammar.

6. The reports of the Professors concur in shewing satisfactory proficiency in many instances in each department, and in com-

mending most favorably the general conduct of all the students during the past Term.

7. The following donations have been received since the last Report :—

From the Rt. Rev. The Visitor, Hawkins' ed. Psalms.

From T. B. Akins, Esq., Journals and other publications.

From Smithsonian Institute, "Kane's Meteorological Observations."

From T. C. Leaver, Esq., "Scripture Lithographs."

From W. B. Armstrong, South American Silver Dollar, 1776.

From J. O. King, Esq., (Exr. late Mrs. McKay), specimens of Coral.

From J. Willis, Esq., thirteen additional specimens of Conchology, and handsome specimen of a Fish Jaw.

From J. C. Bowman, Esq., a Type Box for College Press, and Auriferous Sand from Mariposa.

From W. Pryor, Esq., several large specimens of Minerals from Newfoundland and Cuba, chiefly Copper Ores.

C. B. Bowman, Esq., has made and presented a complete Polariscopes, by means of which the chief laws of the polarization of light by reflection may be illustrated. He has also aided the Professor of N. H. in adapting a Goniometer, by which may be shewn the constancy of the angles of crystals.

From Rev. J. C. Cochran, M. A., Report of Deaf and Dumb, 1859.

From Alexander James, Esq., Volume of Journals.

8. Several gratifying letters have been received by the President and Professors, expressive of sympathy with the objects of the Institution, from Sir Wm. Dennison, Governor-General of Australia; from Admiral Fitzroy, of Board of Trade; from T. B. Akins, Esq., Gilbert Seaman, Esq., R. Morrow, Esq., and other friends.

King's College, Windsor,

JULY, 1860.

THE termination of the Academical Year has been preceded by the usual routine prescribed by the statutes of the University.

The B. A. examination resulted in—

1. G. W. Hodgson, "progressus laudabilis" (totaliter).
2. E. Ansell, prog. laud. (Lit. Hum. & Theol.
3. T. C. Leaver, satisfecit (Math. ex.)

Examiners appointed by the Governors—

Lieutenant Harrison, (Ox.)

Captain Dawson, R. E.

Rev. W. E. Scovil, M. A.

B. Curren, Esq., M. A.

The terminal examinations exhibited results closely commensurate with the *diligence* of the undergraduates respectively, in all the departments of study.

Special examinations were held, which decided the following prizes :—

E. Ansell (Hebrew prizeman of the year)—Hon. Judge Stewart's Prize Microscope.

B. Smith, Welsford Testimonial.

H. Brown, Alumni Prize, Mathematics.

" " " Chemical Analysis.

C. J. Townshend, " French.

" " Chemical Physics.

W. H. E. Bullock, " German.

The examiners appointed by the Associate Alumni were—

H. King, Esq., D. C. L.

Rev. J. Robertson, L. L. D.

Rev. J. Storrs, B. A. (T. C. D.)

B. Curren, Esq., M. A.

The Encenia was celebrated on the 28th, being the last Thursday in June.

The Sermon before the University was preached in Christ Church by Rev. J. Forsythe, (T. C. D.) of Truro—"add to virtue knowledge."

The Commemoration of Founder and Benefactors was pronounced as usual by the Rev. the President of the University.

The Professor of Mathematics, Natural Philosophy, and Astronomy, discoursed on the subject of Mathematical study—its progressive history and eminent utility.

Two of the Prize Essays "On the effect of recent discoveries by means of the Microscope," were read by Messrs. Hodgson and Ansell.

The President announced the *honors* which had been obtained by undergraduates during the past year, and mentioned with *especial commendation* some gentlemen whose names had not been previously included in the University honor list, particularly Mr. Pryor and Mr. Armstrong.

The Hon. Judge Stewart, C. B., addressed the Convocation, and expressed his gratification at the excellence of the Essays which his prize had elicited.

Dr. Cogswell adduced many conclusive arguments in favor of the practical utility of "*bodily exercise*" in every complete system of education. He then called for the successful candidates for the Alumni Prizes, whom he presented to the President, to receive the honors they had won.

Professor Everett's Prizes were then delivered to Messrs. Armstrong and Smith, Mr. H. Brown being absent.

The Hon. Judge Stewart, C. B., expressed his regret on behalf of the Governors, at the unavoidable absence of His Excellency Lord Mulgrave, Lieutenant-Governor of the Province, as also of the Admiral and the General; and the President, in referring to a kind letter from the Rt. Rev. the Visitor (in which he regretted his inability to be present), announced his Lordship's appointment of Mr. Wilkins as Dr. Binney scholar for the ensuing year.

J. R. Hea, Esq., D. C. L., addressed the Convocation in a valedictory speech, referring to his recent appointment in the sister

Province, and concluded by proposing as a subject for a Prize Essay for next Encænïa—"Self-reliance, a means of success."

Professor Everett, M. A., of Glasgow, was then presented by Dr. H. King, and admitted *ad eundem gradum*.

Mr. T. C. Leaver was presented by Rev. Professor Hensley, M. A., and admitted B. A.

Rev. H. P. Almon, B. A., having been admitted M. A. on 12th June.

At the close of the University proceedings the successful scholars from the Collegiate School were called up by Dr. Cogswell, and presented—Kaulbach for the Senior, and Lynch for the Junior, exhibition; also, Harris for Hon. Judge Stewart's prize in French, and Barclay for Hon. Judge Stewart's prize in Arithmetic. The Convocation was then dissolved.

MATRICULATIONS.

Fifteen Matriculations have been registered during the year, viz :—

H. Brown,	Lynch,
D. Brown,	Holden,
A. Fraser,	Moore,
Wainwright,	McKiel,
Wood,	Lyttleton,
—	Henry Carlton Boyd,
Harrington,	Almon,
Bullock,	Jamieson.
Kaulbach,	

BENEFACTIONS.

Two marble busts, Demosthenes and Cicero—Mrs. N. Uniacke.

Two engravings of the Bishops Inglis, in elegant frames, for the Library—Mrs. Inglis.

Old emblematical oil painting (copy of Raphael)—High Sheriff of Hants.

Archdeacon Holes' MS. copy of the Vulgate (of 13th or 14th century), with rubricated capitals, on fine vellum—Rev. R. H. Bullock, M. A.

Copy of the Barker Bible, 1603—J. G. A. Creighton, Esq.
Hippocampi, two specimens from Gulf St. Lawrence—H. Carman, Esq.

Coral from Atlantic Coast of N. S. ; Wood perforated by Teredo Navalis, from St. Margaret's Bay—Rev. J. Ambrose, M. A.

Coal and Pyrites (specimens of)—Wm. Pryor, Esq.

Magnetic Iron Sand (from Sable Island)—J. R. Willis, Esq.

Clock from engine room of the "Hungarian"—Capt. Crawford.

Bottle from camping ground of the crew of the "Blonde," in revolutionary war—R. Thomas, Esq.

Quartz Crystals from Cape Sable—Rev. Mr. Tays.

Parliamentary Papers on excavations at Budrum and Cnidus—W. T. Townshend, Esq.

Parliamentary Papers on effects of the Vine Disease on Commerce.

Catalogue University Pennsylvania, and other papers—A. Cowie, Esq., M. D.

Tennyson's Poems—The Biblical Reason Why—C. W. McCully, Esq.

	{ Mrs. O. King.
	{ H. King, Esq., D. C. L.
	{ Rev. D. W. Pickett, M. A.
Silver Coins,	{ Rev. Prof. Hensley, M. A.
	{ Rev. C. Bowman, M. A.
	{ H. Brown, Esq.
	{ C. Bowman, Esq.
	{ J. Allison, Esq.
Copper Coins,	{ W. H. Blanchard, Esq.
	{ Dr. King.

A fine block of hewn Granite, for Observatory, K. C.—Robert Davis, Esq.

A series of his excellent and useful Almanacks—C. H. Belcher, Esq.

Michaelmas Term will begin on Monday, 3d September.

GEORGE McCRAWLEY,

President.

CURRICULUM, OR COURSE OF STUDY, &c.

CLASSICS.

THESE consist of Historians, Orators, Poets, and Philosophers. Portions of the standard Greek and Latin authors, under each of these denominations, are studied.

In the First Year.

Homer's *Iliad* or *Odyssey*.
 Xenophon's *Cyropædia* or *Anabasis*.
 Demosthenes' *Select Orations*.
 Horace's *Satires* and *Epistles*.
 Livy, first or third decade.
 Cicero de *Officiis* and *Orations*.

In Second Year.

Herodotus, Thucydides, Euripides.
 Virgil's *Georgics*, Terence occasionally.
 Tacitus: *Germania*, *Agricola*.
 Juvenal and Persius.

In Third Year.

Sophocles, Æschylus, Longinus.
 Aristophanes occasionally.
 Tacitus and Juvenal, continued.
 Lucretius occasionally.

Variations in the Course are sometimes admitted; and other authors, such as portions of Pindar, of Plato and of Aristotle's *Ethics*

and Poetics, under favorable circumstances, are read; but the Degree subjects are usually Euripides, Sophocles, Æschylus, Longinus, Tacitus and Juvenal.

In *Logic*, Aldrich's treatise with reference to Whateley and others.

In *Rhetoric*, Aristotle, Quintilian, or Cicero de Oratore with reference to Whateley and others.

Suitable Exercises, Themes and Essays are required.

HEBREW.

The Grammar is carefully studied, and reference to the best subsidiary aids are constantly made.

Portions of the Old Testament are critically read and carefully compared with the variations in the Septuagint, and examination papers frequently written.

The following resolution has been passed by the Alumni, at their late Annual Meeting:

Resolved, that a prize of five pounds be given to the student passing the best examination for *Matriculation* in June next, the day of examination and all other details to be arranged by the Revd. the President of King's College.

GEORGE McCRAWLEY.

HOURS OF PRAYER.....7. A. M., 3.30 P. M.
 HOURS OF MEALS.....Breakfast 8, Dinner 3.50.
 MORNING BELL.....6.30 A. M.
 EVENING BELL.....10 P. M.

THEOLOGICAL DEPARTMENT.

PROFESSOR HENSLEY.

DIVINITY STUDENTS.

First Year.

Greek Testament: Acts.

Evidences: *Paley, Horne.*

Second Year.

Greek Testament: Epistles.

Ecc. Hist. to accession of Constantine: *Burton, Mosheim.*

Liturgy: *Adolphus, Wheatly, Palmer.*

Third Year.

Greek Testament: Epistles.

Articles: Scripture proofs and explanations.

Eccl. History, Reformation and Church of England:

Hardwicke, Mosheim.

Fourth Year.

PREPARATION FOR ORDERS.

Greek Testament: Epistles.

Septuagint.

The Creed: *Pearson.*

The Articles: *Broune.*

Ecclesiastical Polity: *Hooker, V.*

Church Government: *Potter.*

Ecclesiastical History.

Chrysostom de Sacerdotio.
Composition of Sermons.

Butler's Analogy.
Magee on the Atonement.
Bingham's Antiquities.
Wall on Infant Baptism.

The Sunday evening lecture at 7 P.M. is attended by all resident under-graduates.

Subjects : Greek Testament: Gospels.
Bible History.



MATHEMATICAL COURSE.

PROFESSOR EVERETT.

First Year.

Arithmetic.
Algebra.
Euclid I to VI.
Use of Logarithms.
Mensuration.
Elements of Plane Trigonometry.

Second Year.

Algebra.
Plane and Spherical Trigonometry.
Euclid XI.
Practical Mechanics.

Third Year.

Statics.
Dynamics.
Hydrostatics, Optics, Astronomy.
Analytical Geometry.
Differential Calculus.

The above course will be varied as circumstances may require.
The books required for the first year are, Euclid, Colenso's Algebra and Arithmetic, and Chambers' Mathematical Tables.

LECTURES IN CHEMISTRY AND NATURAL HISTORY

PROFESSOR HOW.

First Year.

Chemistry and Mineralogy.
 Powers of Matter.
 Attraction, Heat, Light.
 Electricity, Chemical Attraction.
 Elements, Minerals.

Second Year.

Organic Chemistry.
 Human Physiology.
 Botany, in Summer Season.

Third Year.

Zoology and Geology.
 Botany, in Summer Season.

TEXT BOOKS.

Chemistry.—DRAPER'S.
 Chemistry, Analytical.—FRESENIUS.
 Mineralogy.—DANA'S *Manual*.
 Geology.—LOOMIS'S *Principles*.
 Physiology.—LAMBERT; Zoology.—AGASSIZ.
 Botany.—ASA GRAY'S *How Plants Grow*.

It would be convenient if students would provide themselves with these books in Halifax.

**ANALYSIS of a Mineral Water, from Cape Breton.
By Professor How.**

In Nov. 1859, Professor How made an analysis of a Mineral Water from Bras d'Or, Cape Breton, and found these solid ingredients in an imperial gallon :

	Grains.
Carbonate of Lime and Magnesia.....	0.60
Sulphate of Lime.....	0.94
Chloride of Sodium.....	343.11
Chloride of Potassium.....	4.55
Chloride of Calcium.....	308.90
Chloride of Magnesium.....	4.47
	<hr/> 662.57 <hr/>

A very remarkable feature is the extremely small amount of sulphates. On comparing with the above the best analyses of the celebrated Cheltenham Waters, it is found there are only six of these which contain more solid matter, while the rest have either about the same amount or considerably less. The water is said by those who have used it to be highly medicinal in some complaints.

PICTOU OIL-COAL.

A very valuable Oil-coal was found, some time in 1858, in the neighbourhood of Pictou, and the mine in which it is worked is called Fraser Mine. A proximate analysis yielded,

Moisture.....	0.23
Volatile Matter	66.33
Fixed Carbon.....	25.23
Ash.....	8.21
	<hr/> 100.00 <hr/>

Which numbers shew that it might be expected to yield a large quantity of Oil, and it appears from H. Poole, Esq.'s notes that it affords, on picked samples, not less than 199 gallons per ton, the average yield being about 60 gallons. A minute analysis of the "Coal," and details respecting other minerals for comparison, are published in Silliman's Journal for July 1860.

LECTURES IN MODERN LANGUAGES.

PROFESSOR STIEFELHAGEN.

FRENCH.

First Year.

Ollendorff's Grammar, combined with a systematic course of the pronunciation and the regular and irregular verbs. In this year the scholars read the reading-pieces in *Pinney's First Book of French*, because I find them excellent to practise the pronunciation.

Second Year.

Continuation of *Ollendorff's Grammar*. The scholars begin to read and learn by heart the "*Causeries Parisiennes, by Peschier*," a book which I find better adapted for my purpose than any I ever met with. They are supposed to finish *Ollendorff's Grammar* in two years, at latest. If it is finished sooner, I begin my course of Syntax, &c., which is generally reserved for the third year, in the second.

Third Year.

In this year, I go through a regular course of Syntax, partly as a repetition, and partly to supply the wants of OLLENDORFF's system. The scholars are then supposed to be familiar with all the leading rules of Syntax from OLLENDORFF's Grammar, and, in going through them again, I call their attention to the niceties, dictate rules on them, and cause the class to practise them, by writing exercises after my own dictation, principally consisting of letters and conversations on topics of general interest, &c. In this year I have, moreover, constant verbal exercises in conversation, and the scholars are obliged to speak French as much as possible. They read *Christomathie Francaise, par Boniface*, an excellent book, containing all the varieties of style to be found in French authors.

GERMAN.

First Year.

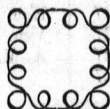
OLLENDORFF's Grammar, combined with a regular course of the pronunciation and the regular and irregular verbs. *Adler's Reader*.

Second Year.

Continuation of OLLENDORFF's Grammar. The scholars continue to read *Adler's Reader*, and begin SCHILLER's *Lyrical Poems*, and one of his *Comedies* in prose.

Third Year.

In this year I follow the same plan as in French. The scholars read one or more of SCHILLER's Tragedies, besides one of the *Comedies* in prose, by the same author.



GRADUATES OF KING'S COLLEGE, 1806—1860.

D. D.

Rev. J. T. Twining	1828	Rev. G. S. Jarvis	1840
Rev. G. McCawley	1835	Rev. J. W. D. Gray	1846
Rev. J. Shreve	1836	Rt. Rev. Hibbert Binney	1852

D. C. L.

Rev. Hibbert Binney	1827	J. R. Hea	1858
Harry King	1835	<i>Major-Genl. Sir</i> J. E. W. Inglis	1858
Rev. S. E. Arnold	1836	<i>Major-Genl. Sir</i> W. F. Williams	1858
Rev. A. V. G. Wiggins	1841	Henry Pryor	1858
Rev. T. G. S. Suther	1852	H. Hartshorne	1858
T. J. M. W. Blackman	1856	J. C. Cogswell	1858
R. Binney	1857	P. C. Hill	1858
J. J. S. Mountain	1858		

Honorary D. C. L.

W. B. Almon	1810	A. Barclay	1827
R. Bayard	1811	<i>Hon.</i> A. W. Cochran	1840
Rt. Rev. A. G. Spencer	1827	Rev. L. C. Jenkins	1842
Ven. G. O. Stuart	1827	L. Bell, Esq.	1844
Rev. G. Millidge	1827	<i>Hon.</i> H. H. Cogswell	1847
Rev. T. B. Rowland	1827	Ven. R. Willis	1848
Sir James Stuart, Bart.	1827	A. M. Uniacke	1855
B. DeSt. Croix, Esq.	1827		

M. D.

AD EUNDEM GRADUM.

B. D. Fraser	1859	W. J. Almon	1859
C. Tupper	1859	C. Cogswell	1859

M. A.

Hon. W. B. Bliss	1816	C. J. Morris	1827
J. Lawson	1817	O. S. Weeks	1827
G. E. W. Morris	1821	J. Black	1829
R. F. Uniacke	1823	J. S. Clarke	1830
J. B. Uniacke	1823	W. Cogswell	1830
E. A. Crawley	1823	H. Pryor	1830
H. N. Arnold	1825	H. J. Fitzgerald	1831
W. B. King	1826	J. Pryor	1831

1860.

1840

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M. B. Desbrisay	1832
J. C. Cochran	1832
R. B. Wiggins	1832
J. Stephenson	1833
A. Gray	1833
J. T. T. Moody	1833
J. H. Clinch	1833
W. E. Scovil	1834
E. C. Barss	1835
G. L. Wiggins	1836
C. O. Wiggins	1839
E. E. B. Nichols	1847
J. B. Smith	1848
E. Gilpin	1850
J. T. Jones	1851
J. J. Ritchie	1851
J. Stewart	1851
C. W. Weldon	1851
R. Parker	1851
T. C. Haliburton	1851

J. Odell	1851
R. G. Haliburton	1852
G. W. Hill	1853
T. C. Leaver	1853
E. Maturin	1853
R. H. Bullock	1855
J. R. Hea	1855
G. Townsend	1856
J. Ambrose	1856
J. M. Hensley	1856
T. Maynard	1857
D. W. Pickett	1857
W. Stewart	1857
A. W. Savary	1857
C. Bowman	1858
T. C. DesBarres	1858
J. N. Ritchie	1858
T. D. Ruddell	1858
Benjamin Curren	1859
Joseph D. Everett	1860

B. A.

R. Viets	1807
W. Hill	1807
W. P. G. Fraser	1809
E. J. Jarvis	1809
J. W. Nutting	1810
C. Ingles	1811
C. A. Shreve	1815
H. Bliss	1816
N. Parker	1816
J. T. Murray	1816
D. L. Robinson	1818
J. Peters	1819
L. M. Wilkins	1819
C. Twining	1820
A. Gilpin	1822
W. W. Walker	1822
J. C. Hall	1823
C. H. Wallace	1823
W. Wright	1823
C. W. H. Harris	1823
J. W. Weeks	1824
T. R. Wetmore	1824
A. D. Parker	1824
F. W. Miles	1824
H. E. Cogswell	1824
Martin I. Wilkins	1824
H. Hartshorne	1824

H. B. Twining	1827
T. H. White	1827
J. M. Campbell	1827
E. S. Freer	1828
J. J. Millidge	1828
J. Johnson	1829
J. G. P. Haliburton	1831
J. Dunn	1831
C. Cogswell	1831
C. J. Shreve	1832
P. M. Cunningham	1832
R. B. Porter	1832
J. S. Thompson	1832
J. H. Gray	1832
G. P. Despard	1832
C. J. Haliburton	1832
W. H. Snyder	1832
T. B. Wilson	1833
H. L. Owen	1833
H. H. Hamilton	1834
W. J. Almon	1834
S. Boggs	1834
S. Brough	1834
J. Hudson	1834
J. Morris	1835
J. R. Prescott	1835
W. Howe	1835

J. C. Cochran 1825
 Arch. Gray 1825

T. Maynard.....	1835	R. T. Roach.....	1850
S. L. Shannon.....	1836	D. Stewart.....	1850
C. K. Porter.....	1836	C. Allison.....	1850
A. W. Millidge.....	1836	H. DeBlois.....	1851
J. M. Sterling.....	1836	W. Hazen.....	1852
W. M. Howe.....	1837	T. Hanford.....	1852
J. C. Cogswell.....	1838	C. Bowman.....	1852
W. M. Godfrey.....	1838	W. R. Cochran.....	1852
C. S. Jeffery.....	1840	M. Swabey.....	1852
J. H. Thorne.....	1840	J. B. Butler.....	1852
P. C. Hill.....	1840	F. Allison.....	1852
C. Merritt.....	1840	R. S. Sterns.....	1852
W. S. Black.....	1840	J. Ambrose.....	1852
G. W. Ritchie.....	1842	W. Stuart.....	1852
D. D. Stewart.....	1842	J. M. Hensley.....	1853
R. McLearn.....	1843	C. G. Wiggins.....	1853
G. Townshend.....	1843	T. Blackman.....	1853
R. F. Brine.....	1843	W. R. Pickman.....	1853
C. Simonds.....	1843	A. W. Savary.....	1854
P. J. Filleul.....	1843	J. N. Ritchie.....	1854
R. Simonds.....	1843	J. T. Moody.....	1854
L. M. W. Hill.....	1843	T. C. DesBarres.....	1855
J. Harvey.....	1844	N. F. Uniacke.....	1855
D. J. Wetmore.....	1845	R. Uniacke.....	1855
C. L. Inglis.....	1845	J. Randall.....	1855
J. J. S. Mountain.....	1845	T. Crisp.....	1856
A. H. Weeks.....	1846	A. Moren.....	1856
W. T. Morris.....	1846	H M Jarvis.....	1856
B. J. Vankoughnet.....	1846	R J Uniacke.....	1856
W. H. Cooper.....	1846	T D Ruddell.....	1857
H. G. Farish.....	1846	C McColla.....	1857
W. Taylor.....	1847	H P Almon.....	1857
B. Curren.....	1847	W S Gray.....	1857
D. W. Pickett.....	1847	R T Braine.....	1857
D. S. Hamilton.....	1847	P W Smith.....	1857
W. Gray.....	1847	L H Bliss.....	1858
B. Gray.....	1847	J J Hill.....	1858
F. H. Almon.....	1848	O M Grindon.....	1858
A. Gilpin.....	1848	J W Forsythe.....	1858
J. S. Smith.....	1849	Henry Sterns.....	1859
R. E. Smith.....	1849	J O Ruggles.....	1859
H. B. Swabey.....	1849	R F Uniacke.....	1859
R. M. Hazen.....	1849	A L Mitchell.....	1859
W. G. Y. Jarvis.....	1850	T C Leaver.....	1860
H. Spike.....	1850		

CATALOGUE OF MEMBERS OF THE UNIVERSITY,
MATRICULATED FROM 1803 TO 1860.

1803.	1814.		
W. P. G. Fraser,	W. Gray,	J. T. Moody,	N. W. Thomas,
H. Hatch,	E. Gilpin,	W. Winter,	J. J. Millidge,
W. B. Almon,	E. Morris,	H. Hartshorne,	A. M. Uniacke.
W. Hill,	R. F. Uniacke,	J. R. Wetmore,	J. Johnston,
R. Bayard,	J. B. Uniacke,	J. Pryor,	1825.
R. Viets,	D. L. Robinson,	A. Parker,	H. J. Fitzgerald,
	L. M. Wilkins,	F. W. Miles,	E. L. Brinley,
1804.	R. Claiborne,	H. E. Cogswell,	J. J. Curren,
C. J. Morris,	G. P. Bliss,	E. S. Freer,	G. Hill,
J. W. Nutting,	H. N. Arnold,	F. S. Crawley,	1826.
	J. Peters,	M. I. Wilkins,	G. Botsford,
1805.	C. W. Wallace,	1821.	C. Botsford,
A. W. Cochran,		H. King,	J. H. Clineh,
A. Barelay,	1816.	J. C. Cochran,	1827.
E. J. Jarvis,	E. A. Crawley,	A. Gray,	J. Stevenson,
	F. W. Morris,	1822.	J. L. Trimmingham
1807.	C. Twining,	S. E. Arnold,	J. W. Ratchford,
H. Binney,		G. S. Jarvis,	W. E. Scovil,
C. Ingles,	1817.	C. O. Wiggins,	C. Cogswell,
T. Paddock,	J. Shreve,	J. Black,	J. Dunn,
J. Boyd,	G. McCawley,	J. U. Jeffery,	P. M. Cunningham,
	G. L. Wiggins,	R. H. Peters,	1828.
1809.	H. W. Crawley,	E. C. Barss,	J. S. H. Smith,
J. Cochran,	A. Gilpin,	S. P. Freeman,	C. J. Shreve,
J. T. Twining,		1823.	R. B. Porter,
W. B. Bliss,	1818.	J. C. Halliburton,	B. D. Fraser,
	W. Walker,	A. V. Wiggins,	W. H. Snyder,
1810.	W. B. King,	J. S. Clarke,	J. S. Thompson,
S. P. Fairbanks,		J. H. Clarke,	G. W. Nicolls,
J. Lawson,	1819.	R. B. Wiggins,	J. H. Gray,
T. C. Halliburton,	J. C. Hall,	M. B. Desbrisay,	G. P. Despard,
	J. A. Griffith,	H. Pryor,	A. F. Welsford,
1811.	C. H. Wallace,	H. B. Twining,	1829.
R. Parker,	C. Inglis,	W. Cogswell,	C. I. Halliburton,
C. A. Shreve,	C. W. H. Harris,	P. A. Knaut,	T. C. Leaver,
J. T. Murray,	R. F. Hazen,	E. C. Campbell,	H. L. Owen,
	W. Wright,	T. H. White,	J. Morris,
1812.	C. Fowle,	1824.	T. G. S. Suther,
H. L. Tremain,	1820.	J. M. Campbell,	T. B. Wilson,
G. W. Morris,	J. W. Weeks,		
N. Parker,	O. S. Weeks,		
H. Bliss,			
1813.			
E. Monk,			

Chase

T. N. Jeffery,

1830.

H. H. Hamilton,
P. Phillips,
W. J. Almon,
R. Prescott,
J. J. Ritchie,
G. Townshend,
E. Cunard,
S. Boggs,

1831.

H. H. Hatch,
G. H. McColla,
T. Maynard,
J. E. W. Inglis,
S. J. Scovil,
G. H. DeWolf,
A. W. Millidge,
H. P. Hill,
W. S. Witham,
J. M. Sterling,
W. Howe,

1832.

W. M. Godfrey,
J. Hudson,
S. L. Shannon,
C. L. Porter,

1833.

W. M. Howe,
S. Brough,
S. Buchan,

1834.

M. W. Porter,
J. C. Cogswell,

1835.

C. W. Leaver,
G. W. Ritchie,
E. E. B. Nichols,
E. P. DeBlois,
C. S. Jeffery,
T. Williams,
P. C. Hill,
J. Odell,
J. Cunningham,
C. Merritt,

1837.

G. A. Viets,
J. Stewart,
J. H. Thorne,

1838.

D. D. Stewart,
J. Harvey,
C. J. Stewart,
E. Simonds,
W. Black,

1839.

R. McLearn,
J. H. Mayne,
R. F. Brine,
L. M. W. Hill,
R. Simonds,
P. J. Filleul,
M. Jarvis,

1840.

J. E. Owen,
S. D. Brown,
T. J. Pope,
A. Wright,

D. J. Wetmore,
C. L. Ingles,
J. J. S. Mountain,
C. J. Simonds,
L. M. A. Gallenga,
A. H. Weeks,
W. T. Morris,
J. B. Vankoughner,
H. Pope,
H. G. Farish

1843.

W. H. Cooper,
W. Taylor,
W. Gray,
B. Gray,
T. W. Robertson,
T. Blackman,
B. Curren,
R. T. Roach,
J. H. Stewart,
D. W. Pickett,
E. Gilpin,
G. W. Hill,

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1844.

F. H. Almon,
C. W. Weldon,
A. Gilpin,
W. Seaman,
F. Carrington,
P. D. H. Neilson,

1845.

R. M. Hazen,
T. T. Hanford,
R. G. Halliburton,
C. E. Knapp,
C. H. Uniacke,
G. W. T. Jarvis,
R. E. Smith,
H. B. Swaby,
W. H. Tremain,
J. S. Smith,
L. M. Wilkins,

1846.

R. H. Bullock,
W. Stewart,
H. M. Spike,

1847.

C. Allison,
J. Breeding,
N. Fairbanks,
H. DeBlois,
W. King,

1848.

W. Hazen,
C. Bowman,
R. E. M. Campbell,
W. R. Cochran,
W. Laird,
M. Swaby,
J. B. Butler,
F. Allison,
R. S. Sterns,
J. Ambrose,
W. Stewart,
R. Payne,

1849.

C. G. Wiggins,
J. M. Hensley,
W. R. Pickman,

1850.

A. W. Savary,
T. C. DesBarres,
J. N. Ritchie,
J. T. Moody,

1851.

R. Uniacke,
N. Uniacke,

1852.

J. Randall,
T. Crisp,
C. McColla,
A. Moren,
H. M. Jarvis,
R. J. Uniacke.

1853.

H. P. Almon,
B. Sawyer,
W. S. Gray,
A. E. Uniacke,
P. W. Smith,
R. S. Braine,

1854.

L. H. Bliss,
C. J. Bonnett,
J. J. Hill,
O. Grindon,
J. W. Tays,
G. Green,
O. Ruggles,

1855.

H. Sterns,
W. Lawson,
W. M. Moren,
R. F. Uniacke,
W. J. K. Myers,
W. H. Hill,
A. Mitchell,

1856.

A. J. Cowie,
H. M. Gray,
J. Fraser,
J. B. VanBuskirk,
H. L. Ruggles,

1857.	1858.	1859.	1860.
T. A. Shaw,	T. C. Leaver,	C. J. Townshend,	— Wainwright,
J. F. Mack,	G. W. Hodgson,	C. W. McCully,	— Wood,
H. M. Clarke,	L. M. Wilkins,	B. Smith,	C. B. Bullock,
E. Ansell,	G. Scott,	W. H. E. Bullock,	J. A. Kaulbach,
C. J. Uniacke,	W. B. Almon,	H. Brown,	P. Lynch,
	W. F. Pryor,	D. Brown,	C. Holden,
	J. B. Uniacke,	A. Fraser,	J. J. Moore,
	W. D. Sutherland,	D. D. Harrington,	W. L. B. McKiel,
	M. Bowman,		W. M. Lyttleton,
			H. C. Boyd,
			T. Almon,
			W. H. Jamison,

LIST OF STUDENTS BEFORE THE CHARTER,
1788 to 1802.

AS FAR AS CAN BE ASCERTAINED.

J. Inglis,	C. Campbell,	B. G. Gray,	J. R. Dewolf.
J. Bisset,	D. Campbell,	H. Hill,	— Fitch,
W. F. Bonnell,	G. Day,	C. Perkins,	P. Wright,
G. Haliburton,	W. Day,	H. Monk,	M. Wright,
G. M. Haliburton,	J. Van Cortlandt,	W. McGeachy,	E. Boyd,
S. Head,	A. A. Van Cort-	H. Barclay,	W. Hulme,
M. Head,	landt,	J. Monk,	— Wylie,
T. Murray,	J. Cunningham,	W. Monk,	— Wylie,
J. Upham,	T. Cochran,	R. Christie,	T. Beardsley,
E. Arnold,	C. W. Weeks,	H. Howe,	W. Bowen,
J. S. Arnold,	J. Cochran,	A. Howe,	T. Britain,
W. Geddes,	H. H. Cogswell,	D. Barclay,	P. H. Clarke,
H. Best,	M. G. Black,	J. DeLancey,	— Chalmers,
J. Tremain,	W. Cochran,	O. DeLancey.	S. Dimock,
I. Hammill,	T. Barclay,	J. Fairbanks,	— Laird,
J. Hammill,	B. Barclay,	D. Fairbanks,	F. Emerson,
T. C. Hammill,	G. Barclay,	D. Knapp,	H. Emerson,
H. McMonagle,	W. Gray,	J. T. Knapp,	B. Monk,
T. C. Emmerson,	W. DeLancey,	— Taylor,	W. Monk,
O. Emmerson,	A. Gray,	— Sneden,	J. Fairbanks,
L. Hartshorne,	J. DeLancey,	W. Robinson,	T. Ruggles,
M. Leonard,	C. R. Fairbanks,	J. Bliss,	J. Thomson,
R. Inglis,	W. Thompson,	T. Tremain,	— Walton,
A. Inglis,	C. Uniacke,	J. Boggs,	W. Bernard,
S. Fraser,	R. Uniacke,	J. Fawson,	G. Harris,
W. Shey,	D. Hammill,	B. Wentworth,	F. Holland,
J. Clarke,	R. Hammill,	W. Twining,	— Holland,

ESSAY ON MATHEMATICAL STUDY.

BY PROFESSOR EVERETT, KING'S COLLEGE, WINDSOR.

It is pleasing to find, in leaving an old country for a new one, that the same subjects which interest and employ the thoughts of those we have left behind, receive likewise a share of attention in the new country. It might be apprehended that in crossing the ocean we should forsake the pursuits with which we had been previously occupied; and more especially in a young and rising colony where it is the obvious duty of man to reclaim the wilds and change the face of primeval nature, it might be feared that abstract studies would be completely forgotten in the all-absorbing pursuit of material progress. It is satisfactory then to find that Nova Scotia has not severed this link of connection with the older civilizations of Europe, but has provided means for training the youth and promise of her land in liberal studies.

And of all studies that have served to unite men of different ages and countries, and lead their minds in the same journey age after age, there is none perhaps that has so completely attained the end as Mathematics. Ever since the days of Euclid, about 300 B. C., the educated portion of youth have followed the track of reasoning which he marked out for them—striving with the same difficulties—carrying on the same trains of argument—and receiving the same impressions of wonder and delight as new and beautiful truths were opened up to them by his demonstrations.

The subjects of mathematical reasoning are such as to render the study entirely independent of any particular age or country. They belong, not to any accidental or transitory state of things, but to the essential structure of the human mind. They belong not to mere historical fact, but to a philosophy that rises above fact and gathers up into itself all possible facts of a certain kind, present, past and future. Even a new creation of the material world, while it might, for aught we can prove, uproot and overturn all existing systems of Natural History, could not touch the accuracy of one single proposition in Pure Mathematics.

And mathematical science possesses this advantage over all other departments of abstract philosophy, that while they are theatres of combat for rival opinions, so that two men who take opposite sides may spend their lives in the strenuous endeavor to maintain respectively two opposite theories which cannot both be true, though they may both be false, the mathematician builds on firmer ground. "The houses that he builds," if I may be allowed to quote Shakspeare in this connection, "last till doomsday." It is indeed refreshing, after perusing Reid and Brown, or Kant and Hamilton, till the giddy judgment reels with doubt, to take up a quiet treatise on some mathematical subject, where every step is so sure that no adversary can question it—no school arise to doubt it.

For those who wish to display their gladiatorial skill, there is ample scope in most departments of human learning. The great Commentators on the Classics were unsurpassed in the faculty of mutual abuse, and attained perfect command of all the sarcastic epithets which could be found in Cicero. The same faculty is still more requisite for writers on Mental Philosophy, who often contradict one another upon first principles, and being precluded from logical argument by the want of a common standing ground, betake themselves to rhetoric as the only available weapon.

But Euclid never loses his temper; *he* never indulges in any irony or sarcasm, but with the calm dignity of one who is consciously invincible, proceeds from step to step in his argument, and if he alludes to adversaries at all, contents himself with pointing out, in the quietest possible manner, that their views are self-contradictory. His writings possess that air of repose which is said to be the first element of sublimity.

From the certainty of mathematical reasoning springs an important moral benefit to those who study the science with that care and accuracy which it demands: I mean the faith in truth as immutable and consistent with itself in all its parts. Subject a mathematical formula to whatever reductions you choose, twist and torture it as you may, it always remains, in spite of the wondrous transformations which it undergoes, completely consistent with itself. If you deviate in the slightest degree from the straightforward path and introduce an illegitimate step for the purpose of arriving, as you think, more speedily at the desired answer, you will probably find that instead of attaining your end you have rendered it unattainable. But put confidence in established principles—apply them boldly without fear of consequences, and they are sure in the end to bring out a correct result. How expressive of the course of human life, where duplicity always outwits itself, and a straightforward course is the only sure road to success.

This benefit is one which belongs to Mathematics in common with Physics and Natural History, for in these latter departments the laws of nature are

just as reliable as the laws of number and magnitude in the former. In the one case we learn to depend upon the conclusions of sound reasoning, in the other we learn to depend on the consistency of the course of nature. Both should alike teach us honesty in our proceedings, and faith in an overruling Providence, whom no accidents can defeat—no time can change. They have another lesson too for the theological student. They teach him not to fear the investigations of science on the one hand, or of historical criticism on the other, but to rest assured that different lines of inquiry, if carefully pursued and logically conducted, cannot fail to result in harmonious conclusions,—that notwithstanding the doubts which may threaten when there is only a glimmering of knowledge, fuller information will remove all the discrepancies that appear, and the heavens and the earth, from starry orb and stony vault, give forth concurrent testimony to the Book of Truth.

After these preliminary remarks, you will naturally expect from me a definition of the science of Mathematics, and an outline of its various branches.

Mathematics may be defined as the science of magnitude. It may be divided into two great branches—first, Pure Mathematics; second, Mixed or Applied Mathematics.

Pure Mathematics treats of abstract magnitude,—that is to say, it takes no account of the particular substance or thing whose magnitude is in question. The magnitudes may be lengths of lines, weights of solid bodies, intervals of time, or anything else that admits of measurement; and it is the province of Pure Mathematics to lay down propositions which are equally true of them all.

Inasmuch as *form* admits of measurement, *its* properties come within the province of Mathematics, constituting a distinct branch, which is called Geometry; and since the properties of any particular form or figure are irrespective of the material of which the figure may be composed, Geometry belongs to the department of Pure Mathematics.

When mathematical principles are applied to cases in which it is necessary to consider the nature and properties of the substance or thing whose magnitude is in question, we have instances of “Mixed,” or as it is otherwise called, “Applied” Mathematics. Under this head fall Mechanics, Physical Astronomy, and considerable portions of the sciences of Heat, Light and Electricity. In fact the branches of Mixed Mathematics extend their ramifications into nearly every department of human knowledge.

And here I may appropriately state the place which Mathematics rightly occupies in Physical Science. Its function is, to deduce accurate numerical conclusions from data furnished by experiment, to show the precise amount of the effect which will follow from the operation of any force whose law is

known. All the conclusions of Mixed Mathematics are conditional, and may be expressed thus : *if these facts are true, then these conclusions follow.* The inference, *as an inference*, is necessary and certain, but it rests upon the foundation of facts which lie in the department of the experimentalist, not of the mathematician ; and the conclusion is not more certain, although not less so, than the facts from which it is drawn.

The application of Mathematics to the results of experiment and observation, often simplifies these results in a remarkable degree. For example, the great astronomer Tycho Brahe made and recorded a number of observations on the movement of the planet Mars. He noted the apparent places of the planet from time to time, but did not succeed in discovering the orbit in which these places lay. Kepler, taking up the records which Tycho had left a mere mass of unconnected facts, succeeded, after immense labor, in shewing that all the places admitted of expression in two simple laws, viz. : that the planet moved in an ellipse, of which the sun occupied one focus ; and that its velocity was such that a line drawn from the planet to the sun would sweep over equal spaces in equal times. Newton, coming after, deduced these further inferences, viz. : that the force acting upon the planet was always directed to the centre of the sun ; and that the force varied according to the planet's distance from the sun at a rate which admits of easy calculation, and which mathematicians denote by the phrase "inversely as the square of the distance." Kepler's discoveries were a remarkable instance of the simplicity which Mathematics can introduce into the classification of a number of isolated facts. Newton's were a remarkable instance of the aid which Mathematics gives in drawing inferences extremely remote from the premises.

The study of Mathematics is generally allowed to be one of the best exercises for the reasoning powers that can possibly be obtained. Indeed there is no other study in which the act of reasoning is practised to anything like the extent that it is in this science ; nor is there any other in which such complicated chains of reasoning are fabricated. In other sciences we begin to doubt of our ground when many links of reasoning have been interposed between our facts and our conclusion—the certainty diminishes the further we proceed ; but in Mathematics the last link in the chain is equally certain with the first. The tracing of these long trains of reasoning requires a careful exercise of attention, and encourages that habit of concentrated and connected thought which is the essence of all true study.

Though fashion has been powerless to shake the *deductions* of mathematical reasoning, it has exercised considerable influence upon the course of mathematical study. The most important point for decision as regards the course to be followed in this Institution, is the comparative preference that should be given to the theoretical and the practical part—the former consisting in the

investigation of principles, and the latter in turning these principles to account.

To the man who learns Mathematics chiefly with a view to its use in his profession as an engineer, a navigator, or a surveyor, the practical part is of most importance,—it is more needful for him to be expert at figuring and ready at the application of his rules than to be able to trace the rules to philosophical principles.

On the other hand, it seems accordant with the spirit and design of a University to cultivate those portions of the science which involve the exercise of philosophical thought—to trace the reasons of rules instead of adopting them as the practical man does, on the mere authority of established custom. Moreover it will be found that familiarity with the principles of the science is an invaluable preparative for acquiring the practice, and enables a person to understand and remember, on first hearing, a rule which to the unscientific man would be immensely difficult. The practical part can be readily acquired by practice when once the theory is understood; but when a person has allowed his mind to harden into maturity before giving his attention to the principles, he will probably find that he is too old to learn them, and that there is nothing for him but to remain the drudge that he has begun.

Still a certain amount of practical work is necessary for rightly understanding the theory; and it can scarcely be doubted that a judicious mingling of the two will form both the most interesting and the most instructive course for such an Institution as this.

I shall be expected to say a few words upon the services which mathematical science has rendered to the world. And here the difficulty is not to find material, but to select out of the abundance which offers itself.

Little need be said respecting the utility of mathematical science in Surveying, an art which is wholly dependent upon it. In Engineering it is scarcely less indispensable.

To the Physicist and the Chemist it is an instrument of immense power. It is seldom that experiments furnish data pure and simple, for deducing the law which they go to establish. The results, as directly furnished by observation, usually require considerable manipulation in the hands of the mathematician before the law which they establish can be accurately inferred.

In the science of Astronomy, the telescope itself owes all those refinements upon which its great power depends, to mathematical investigations, which have shown the correct form for the speculum in the reflecting telescope, and the combination of lenses necessary for producing achromatism in the refracting telescope; and it is by analytical investigations of the profoundest kind that modern Astronomy is able to predict the motions of the heavenly bodies with that unerring accuracy which is of such inestimable value to the modern navigator.

Even our social and commercial institutions have their obligations to Mathematics. Bankers are glad to have recourse to logarithms in calculating compound interest; and every Insurance Society employs an actuary who is a skilful mathematician.

But while stating the practical objects which have been attained through the aid of Mathematics, I must protest against the spirit which meets all liberal studies with the question *cui bono?* in a sense nearly equivalent to "*what money will it make?*" There is too much disposition in this busy commercial age to exalt material advantages, forgetting that man has a mind to cultivate as well as a body to feed,—that there are mental gratifications superior both in kind and in duration to bodily enjoyments,—that it is the business of man not only to rule the brute creation and eat the fruits of the earth, but also to glorify the Creator by studying His works, and by raising to its highest pitch of culture that most glorious of all His works—the intelligent mind.

